Kindergarten

By the end of kindergarten, students understand small numbers, quantities, and simple shapes in their everyday environment. They count, compare, describe and sort objects, and develop a sense of properties and patterns.

Number Sense

1.0   Students understand the relationship between numbers and quantities (i.e., that a set of objects has the same number of objects in different situations regardless of its position or arrangement):

1.1   Compare two or more sets of objects (up to ten objects in each group) and identify which set is equal to, more than, or less than the other.

1.2   Count, recognize, represent, name, and order a number of objects (up to 30).

1.3   Know that the larger numbers describe sets with more objects in them than the smaller numbers have.

2.0   Students understand and describe simple additions and subtractions:

2.1   Use concrete objects to determine the answers to addition and subtraction problems (for two numbers that are each less than 10).

3.0   Students use estimation strategies in computation and problem solving that involve numbers that use the ones and tens places:

3.1   Recognize when an estimate is reasonable.

Algebra and Functions

1.0 **Students sort and classify objects:**

1.1 Identify, sort, and classify objects by attribute and identify objects that do not belong to a particular group (e.g., all these balls are green, those are red).

Measurement and Geometry

1.0 **Students understand the concept of time and units to measure it; they understand that objects have properties, such as length, weight, and capacity, and that comparisons may be made by referring to those properties:**

1.1 Compare the length, weight, and capacity of objects by making direct comparisons with reference objects (e.g., note which object is shorter, longer, taller, lighter, heavier, or holds more).

1.2 Demonstrate an understanding of concepts of time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year) and tools that measure time (e.g., clock, calendar).

1.3 Name the days of the week.

1.4 Identify the time (to the nearest hour) of everyday events (e.g., lunch time is 12 o'clock; bedtime is 8 o'clock at night).

2.0 **Students identify common objects in their environment and describe the geometric features:**

2.1 Identify and describe common geometric objects (e.g., circle, triangle, square, rectangle, cube, sphere, cone).

2.2 Compare familiar plane and solid objects by common attributes (e.g., position, shape, size, roundness, number of corners).

Statistics, Data Analysis, and Probability

1.0   Students collect information about objects and events in their environment:

1.1   Pose information questions; collect data; and record the results using objects, pictures, and picture graphs.

1.2   Identify, describe, and extend simple patterns (such as circles or triangles) by referring to their shapes, sizes, or colors.

Mathematical Reasoning

1.0   Students make decisions about how to set up a problem:

1.1   Determine the approach, materials, and strategies to be used.

1.2   Use tools and strategies, such as manipulatives or sketches, to model problems.

2.0   Students solve problems in reasonable ways and justify their reasoning:

2.1   Explain the reasoning used with concrete objects and/or pictorial representations.

2.2   Make precise calculations and check the validity of the results in the context of the problem.